Complete Summary

GUIDELINE TITLE

Diagnostic laparoscopy for acute abdominal pain. In: Diagnostic laparoscopy guidelines.

BIBLIOGRAPHIC SOURCE(S)

Diagnostic laparoscopy for acute abdominal pain. In: Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). Diagnostic laparoscopy guidelines. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2007 Nov. p. 18-24.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Society of American Gastrointestinal and Endoscopic Surgeons (SAGES). SAGES guidelines for diagnostic laparoscopy. Los Angeles (CA): Society of American Gastrointestinal and Endoscopic Surgeons (SAGES); 2002 Mar. 5 p.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
CONTRAINDICATIONS
QUALIFYING STATEMENTS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Non-specific acute abdominal pain

Note: Non-specific acute abdominal pain is defined as acute abdominal pain of less than 7 days where the diagnosis remains uncertain after baseline examination and diagnostic tests.

GUIDELINE CATEGORY

Diagnosis
Evaluation

CLINICAL SPECIALTY

Critical Care
Emergency Medicine
Gastroenterology
Obstetrics and Gynecology
Surgery

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

- To assist surgeons' decisions about the appropriate use of diagnostic laparoscopy in patients with non-specific acute abdominal pain
- To update the previous 2002 guidelines on this topic

TARGET POPULATION

Patients with non-specific acute abdominal pain

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnostic laparoscopy in patients with non-specific acute abdominal pain

MAJOR OUTCOMES CONSIDERED

- Conversion to open procedure rate
- Reoperation rate
- Procedure-related/intraoperative complications
- Procedure-related morbidity
- Postoperative hospital length of stay
- Patient well-being
- Mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A systematic literature search of MEDLINE for the period 1995-2005 was limited to English language articles. The search strategy is shown in Figure 1 in the original guideline document. Using the same strategy, the Cochrane database of evidence-based reviews and the Database of Abstracts of Reviews of Effects (DARE) were searched.

Abstracts were reviewed by three committee members and into the following categories:

- Randomized studies, meta-analyses, and systematic reviews
- Prospective studies
- Retrospective studies
- Case reports
- Review articles

Randomized controlled trials, meta-analyses, and systematic reviews were selected for further review along with prospective and retrospective studies that included at least 50 patients; studies with smaller samples were reviewed when other available evidence was lacking. The most recent reviews were also included. All case reports, old reviews, and smaller studies were excluded.

The reviewers graded the level of evidence of each article and manually searched the bibliographies for additional articles that may have been missed by the search. Any additional relevant articles were included in the review and grading.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I	Evidence from properly conducted randomized, controlled trials
Level II	Evidence from controlled trials without randomization Or Cohort of case-control studies Or Multiple time series, dramatic uncontrolled experiments
Level III	Descriptive case series, opinions of expert panels

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

To maximize the efficiency of the review, articles were divided into three subject categories:

- Staging laparoscopy for cancer
- Diagnostic laparoscopy for acute conditions
- Diagnostic laparoscopy for chronic conditions

Reviewers graded the level of each article (see "Rating Scheme for the Strength of the Evidence.")

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The guidelines were developed under the auspices of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) and revised by the SAGES Guidelines Committee.

The statements included in this guideline are the product of a systematic review of published work on the topic, and the recommendations are explicitly linked to the supporting evidence. The strengths and weaknesses of the available evidence are described and expert opinion sought where the evidence is lacking. This is an update of previous guidelines on this topic (last revision 2002) as new information has accumulated.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Scale Used for Recommendation Grading

Grade A	Based on high-level (level I or II), well-performed studies with uniform interpretation and conclusions by the expert panel
Grade B	Based on high-level, well-performed studies with varying interpretation and conclusions by the expert panel
Grade C	Based on lower-level evidence (level II or less) with inconsistent findings and/or varying interpretations or conclusions by the expert panel

COST ANALYSIS

The literature was reviewed for published cost analyses. No evidence exists on the cost-effectiveness of diagnostic laparoscopy for nonspecific acute abdominal pain.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The recommendations of each guideline undergo multidisciplinary review and are considered valid at the time of production based on the data available. This statement was reviewed by the Board of Governors of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), November 2007.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions of the levels of evidence (**I, II, III**) and grades of the recommendations (**A, B, C**) are provided at the end of the "Major Recommendations" field.

General Recommendations for Diagnostic Laparoscopy

Diagnostic laparoscopy (DL) is a safe and well tolerated procedure that can be performed in an inpatient or outpatient setting under general or occasionally local anesthesia with intravenous sedation in carefully selected patients. Diagnostic laparoscopy should be performed by physicians trained in laparoscopic techniques who can recognize and treat common complications and can perform additional therapeutic procedures when indicated. During the procedure, the patient should be continuously monitored, and resuscitation capability must be immediately available. Laparoscopy must be performed using sterile technique along with meticulous disinfection of the laparoscopic equipment. Overnight observation may be appropriate in some outpatients.

DL for Acute Abdominal Pain

Technique

Many studies have documented the feasibility and safety of the procedure using general anesthesia in patients with acute abdominal pain (Level I-III). Severe abdominal distention due to bowel obstruction usually precludes successful deployment of the technique due to inadequate working space. In addition, the presence of multiple adhesions can limit its use. Conversion rates to an open procedure have ranged widely and are usually the result of intra-abdominal adhesions, inability to visualize all structures, technical difficulties, and surgeon inexperience.

For initial access, a cut-down technique and the Veress needle technique have been described. Access-related complications have been reported, and some authors recommend the use of the cut-down technique to prevent untoward events, especially in the case of abdominal distention or prior abdominal operations. Nevertheless, no studies have compared these two access techniques in patients with acute abdominal pain. The periumbilical region is the usual site for

initial access; however, previous midline incisions may dictate the use of another "virgin" site. While most studies describe insufflation pressures of 14-15 mm Hg, some authors have used lower levels (8-12 mm Hg) due to concerns of hemodynamic compromise with higher pressures. Nonetheless, no untoward effects of higher pressures have been described, and no comparative studies using different insufflation pressures exist. An angled scope is used at the periumbilical trocar site for inspection of the intra-abdominal organs, including the surface of the liver, gallbladder, stomach, intestine, pelvic organs, and visible retroperitoneal surfaces along with examination for free intraperitoneal fluid. Additional (5-mm) trocars may be used at the discretion of the surgeon to optimize exposure or provide therapeutic intervention. The use of laparoscopic ultrasound has not been described in this population.

Indications

- Unexplained acute abdominal pain of less than 7 days duration after initial diagnostic workup
- As an alternative to close observation for patients with nonspecific abdominal pain which is the current practice in the management of these patients

Recommendations

DL is technically feasible and can be applied safely in appropriately selected patients with acute non-specific abdominal pain (**Grade B**). The procedure should be avoided in patients with hemodynamic instability and may have a limited role in patients with severe abdominal distention or a clear indication for laparotomy (**Grade C**). The procedure should be considered in patients without a specific diagnosis after appropriate clinical examination and imaging studies (**Grade C**). Based on the available evidence, an invasive procedure cannot be recommended before other non-invasive diagnostic options have been exhausted.

DL may be superior to observation for nonspecific abdominal pain; however, the available evidence is mixed, making it difficult to provide a firm recommendation. In addition, DL may be preferable to exploratory laparotomy in appropriately selected patients with an indication for operative intervention provided that laparoscopic expertise is available (**Grade C**).

For details of the rationale for the procedure and its diagnostic accuracy, see the original guideline document.

Definitions:

Levels of Evidence

Level I	Evidence from properly conducted randomized, controlled trials
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	Or Multiple time series, dramatic uncontrolled experiments
Level III	Descriptive case series, opinions of expert panels

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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Reduction in the rate of negative and nontherapeutic laparotomies (with a subsequent decrease in hospitalization, morbidity, and cost after negative laparoscopy)
- Earlier diagnosis and intervention with potentially improved outcomes compared with observation
- Ability to provide therapeutic intervention

POTENTIAL HARMS

- Delay to definitive treatment with potentially increased morbidity when the study is false negative
- Procedure-related/intraoperative complications (see "Procedure-related Complications and Patient Outcomes" section in the original guideline document)

CONTRAINDICATIONS

CONTRAINDICATIONS

- Patients with a clear indication for surgical intervention such as bowel obstruction, perforated viscous (free air), or hemodynamic instability
- Relative contraindications used by some authors include patients with prior intra-abdominal surgeries, patients with chronic pain, morbidly obese patients, pregnant patients, and patients with psychiatric disorders.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

Clinical practice guidelines are intended to indicate the best available approach to medical conditions as established by systematic review of available data and expert opinion. The approach suggested may not be the only acceptable approach given the complexity of the health care environment. These guidelines are intended to be flexible, as the surgeon must always choose the approach best suited to the patient and variables in existence at the time of the decision.

Limitations of the Available Literature

The results of the analyzed literature are difficult to combine, as there is a lack of homogeneity. Reports range from the evaluation of women of reproductive age with acute pelvic pain to patients with suspected diverticulitis and to patients with an acute abdomen and peritonitis. The diagnostic accuracy of the procedure can be substantially different depending on the examined population. It is also unknown how experience with the procedure impacts its diagnostic accuracy. Given today's reality, one important limitation of many of the available studies is the lack of preoperative, high quality imaging studies (like spiral computed tomography [CT] scan of the abdomen and pelvis), which may have provided the diagnosis without the need for an invasive procedure.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Foreign Language Translations
Patient Resources

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 Apr (revised 2007 Nov)

GUIDELINE DEVELOPER(S)

Society of American Gastrointestinal and Endoscopic Surgeons - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)

GUIDELINE COMMITTEE

Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Members of the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) disclose potential conflicts of interest and pertinent financial relationships prior to serving as faculty for SAGES-sponsored educational events, delivering presentations at scientific meetings, etc. Additionally, members of SAGES Committees disclose their potential conflicts of interest and pertinent financial relationships annually as a condition of committee membership.

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GUIDELINE AVAILABILITY

Electronic copies: Available from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Web site.

Print copies: Available from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES), 11300 W. Olympic Blvd., Suite 600, Los Angeles, CA 90064; Web site: www.sages.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following is available:

- Patient information for diagnostic laparoscopy from SAGES. Available in English and Polish from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

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